

In the Claims

Please cancel all the claims of record 1-48 and substitute the following new claims:

49. (new) In a hand held non-contact temperature measurement instrument comprising on a common support, the combination of an infrared detector and a laser system for aiming said detector, in which said system includes a laser and an optical means:

the improvement in which said optical means both, (A) converts a single laser beam from said laser into a visible display of separated light spots in a pattern on a target surface to indicate the edge of the area on said surface from which infrared radiation is detected by said detector; and (B) also converts said single laser beam into a spot of laser light at the center of said display.

50. (new) In a hand held non-contact temperature measurement instrument comprising on a common support the combination of an infrared radiation detector and a laser system for aiming said detector in which said system includes a laser and an optical means:

the improvement in which said optical means is illuminated by a single laser beam from said laser and emits a light display distribution pattern of more than two laser beams onto a target surface from which temperature is measured by said detector, in the form of laser spots; and said optical means directs said beams to said surface to identify both the location

and size of the area on said surface from which temperature measurement is made by said detector.

51. (new) In a hand held non-contact temperature measurement instrument comprising on a common support the combination of an infrared radiation detector and a laser aiming system for said detector in which said system includes a laser and an optical means:

the improvement in which said detector has a field of view, visually indicated on a target measurement surface by projection from said optical means of a pattern of laser light spots onto said surface to indicate both the location and the size of the area from which temperature is measured by said detector; and said optical means also displays a central laser spot on said surface.

52. (new) In a hand held non-contact temperature measurement instrument comprising on a common support an infrared radiation detector and a laser aiming system for said detector which system includes a laser and an optical means

the improvement in which said optical means is illuminated by a laser beam from said laser and displays more than

two laser beams on a target surface as a concentric light intensity distribution pattern which visually indicates to a user the edge location, center and size of the target surface area from which temperature is measured by the detector.

53. (new) Laser thermometer device for temperature measurement comprising:

A) a detector for receiving heat radiation from a measurement spot on an object of measurement; and

B) a sighting arrangement, comprising:

a laser and

a beam splitter, aligned to be illuminated by said laser, to produce a pattern on a measurement spot on the surface of an object of measurement, in the form of a light intensity distribution which includes a point at the center of the measurement spot and a visible laser circle displaced from said center point; said beam splitter positioning said circle for identifying and outlining the position and size of said measurement spot by display of visible light including the center point of the measurement spot to facilitate sighting.

54. (new) Device for temperature measurement comprising:

A) a detector for receiving heat radiation emanating from a measurement spot on an object of measurement;

B) an optical system for imaging heat radiation

emanating from the measurement spot onto the detector; and

C) a sighting arrangement comprising:

a laser;

a beam splitter optical system, aligned to be illuminated by said laser, to produce a pattern in the form of a light intensity distribution which includes a point at the center of the measurement spot and a circle displaced from the center; and

a beam splitter to position said circle for identifying and outlining the location and size of the measurement spot on the object of measurement by visible light and for positioning the point near the center of the measurement spot to facilitate sighting.

55. (new) Temperature measurement device comprising the combination of an infrared detector having a field of view and a laser beam sighting system comprising a laser and a beam splitter illuminated by a single beam from said laser and emitting more than two divergent beams which are projected onto a measurement surface to indicate to the user the center and edges of the field of view of said detector by visible spaced apart light spots on said surface.

56. (new) The improvement of claim 49 in which the optical means is a diffraction lens.

57. (new) The improvement of claim 50 in which the optical means is a diffraction lens.

58. (new) The improvement of claim 51 in which the optical means is a diffraction lens.

59. (new) The improvement of claim 52 in which the optical means is a diffraction lens.

60. (new) A device for temperature measurement comprising:

- a) a detector for receiving heat radiation emanating from an area on an object of measurement,
- b) means for imaging the heat radiation, emanating from the area, onto the detector;
- c) a laser sighting arrangement comprising:
  - a laser;
  - an optical element, aligned to be illuminated by said laser, to produce a pattern in the form of a light intensity distribution which includes a laser light spot at about the center of the measurement area and a ring of laser light spots displaced from said center.

61. (new) The device of claim 60 where said light intensity distribution is in the form of a light intensity distribution including more than two spots.

62. (new) A device for temperature measurement comprising:

- a) a detector for receiving heat radiation emanating from a measurement spot on an object of measurement,
- b) an optical system for imaging the heat radiation, emanating from the measurement spot, onto the detector;
- c) a laser sighting arrangement comprising:
  - a laser;
  - a diffraction optical element, aligned to be illuminated by said laser, to produce a diffraction pattern in the form of a light intensity distribution which includes a 0 order spot at about the center of the measurement spot and at least two intensive spots displaced from the center.

63. (new) The device of claim 62 where said light intensity distribution is in the form of a light intensity distribution pattern including more than two spots.

64. (new) The instrument according to claim 50 in which the optical means also emits a spot of laser light to the center of said measurement area.

65. (new) An instrument according to claim 51 in which said optical means also displays a central laser spot on said surface within said field of view.

66. (new) Device for temperature measurement comprising:  
a detector for receiving heat radiation emanating from a measurement area on an object of measurement; and  
a laser sighting system for said detector comprising a laser and a beam splitter, aligned to be illuminated by said laser, to produce a pattern of more than two separate spots on the object of measurement as a light intensity distribution pattern, identifying the position and size of the measurement area by visible light to facilitate measurement.

67. (new) Laser directed temperature measurement device comprising the combination of an infrared detector having a field of view and a laser beam sighting system comprising a laser and a beam splitter illuminated by a single beam from said laser and emitting more than two divergent laser beams split from said single beam and projected onto a measurement surface area to form a pattern of visible spots mutually spaced apart to indicate to the user the field of view of said detector.

68. (new) Device according to claim 66 in which two or more light spots are arranged with a central spot to form a pattern of at least three spots to identify the target surface area.

69. (new) Device according to claim 67 in which divergent laser beams form a ring pattern of more than two spaced apart light spots on the measurement area to outline visibly the edge of the field of view of the detector.